



From the window of a plane, the **land below looks smooth**, just as data visualizations seem flawless at first glance.

But a **closer inspection** of the data reveals **hidden issues**, and today, we'll zoom in to uncover the **real story** behind British Airways' customer experience.



# Why We Chose BRITISH AIRWAYS

British Airways is one of the United Kingdom's leading airlines, offering numerous flights within the United Kingdom and other countries.

Although, one of our team members, had an experience that initially felt smooth—until **delays, poor communication, service issues**, and missing his flight turned into a frustrating ordeal.



We wanted to know if this was an isolated case



The data revealed something deeper



Your BA213 flight to Boston Logan on 06 Aug 2024 has been cancelled

External Inbox x

London to Boston – BA 203

Aug 6, 5:15 PM–7:50 PM

Take-off  
Aug 6, 5:15 PM

Landing  
Aug 6, 7:50 PM

Flight duration  
7 hr, 35 min

Passenger name  
MR ANNAVARAPU DIVYESHAI

Seat  
-

Confirmation number  
KQDWQG



# Our **Data** Journey

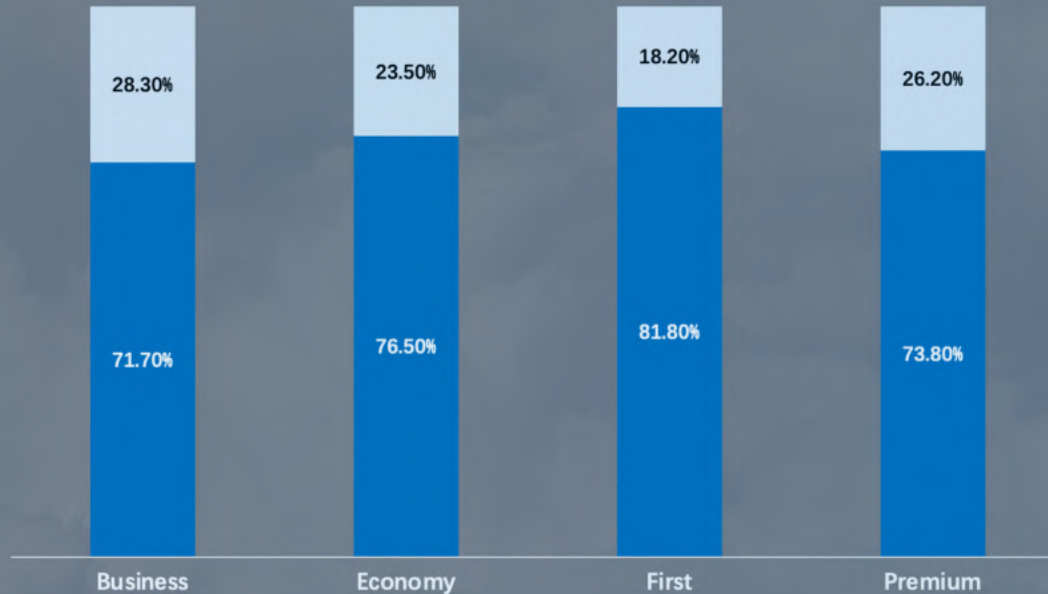


British Airways seems flawless at first glance. Yet, feedback reveals deeper complexities. Are passengers truly satisfied? Let's explore the data behind the facade.

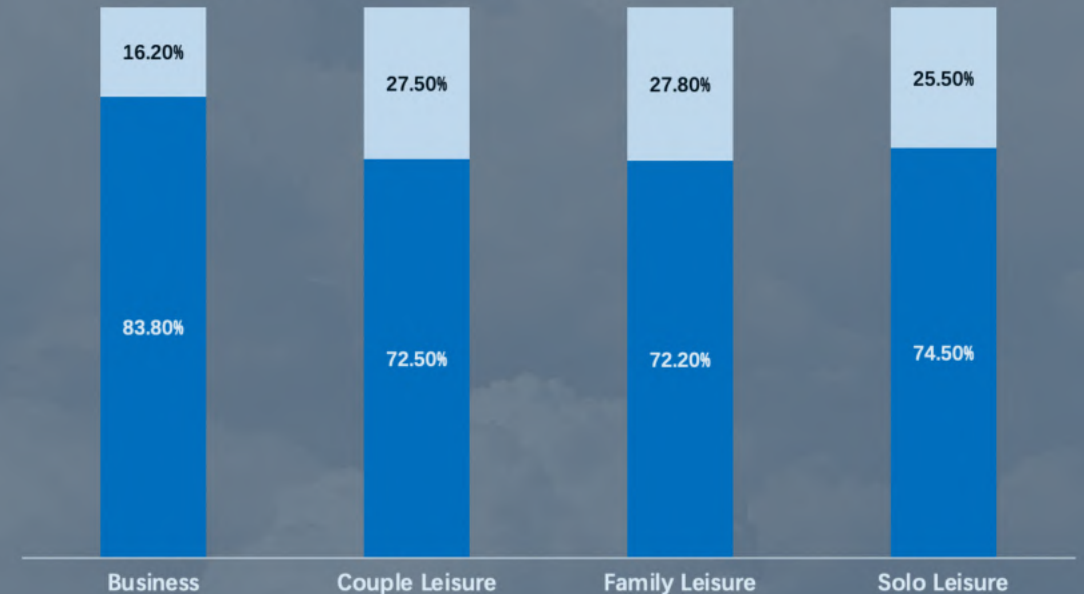
# Sentiment by Traveler Type and Class

Percentage of Reviews

Percentage Distribution of Positive and Negative Reviews by Class



Percentage Distribution of Positive and Negative Reviews by Traveler Type



 Negative  Positive



Business and solo travelers are most critical



First-Class, Premium Economy, and Economy classes have the highest dissatisfaction



Passengers expect premium service but are often disappointed

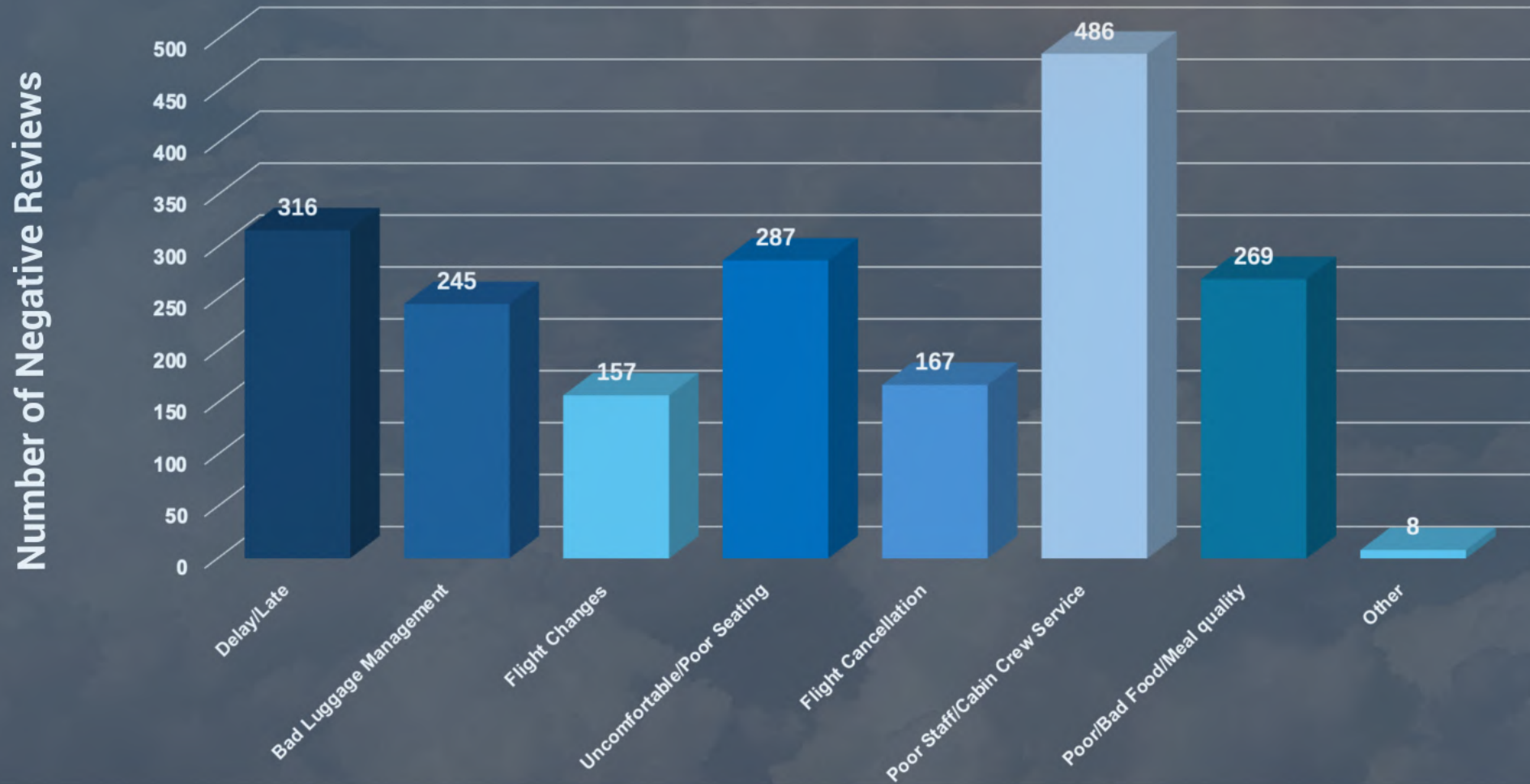


Expectations don't match the experience in premium cabins



# Customer Retention: Key Factors of Dissatisfaction

## Root Causes of Negative Reviews



**Poor Staff/Cabin Crew Service** and **Delay/Late** are two leading cause of negative reviews



# Customer Retention: Key Factors of Dissatisfaction

Many of the British airways flights are **late**, but they performs **better** than U.S. Airline

Frequency Distribution of Arrival Delay in Minutes  
(British Airways)



Frequency Distribution of Arrival Delay in Minutes  
(U.S. Airways)



Peak fall into the interval of -20 to -10 min



Early arrivals are more frequent than late arrivals



Delay might not be the main issue for customer dissatisfaction



Most flights arrive on time, significant delays still occur, though less frequently

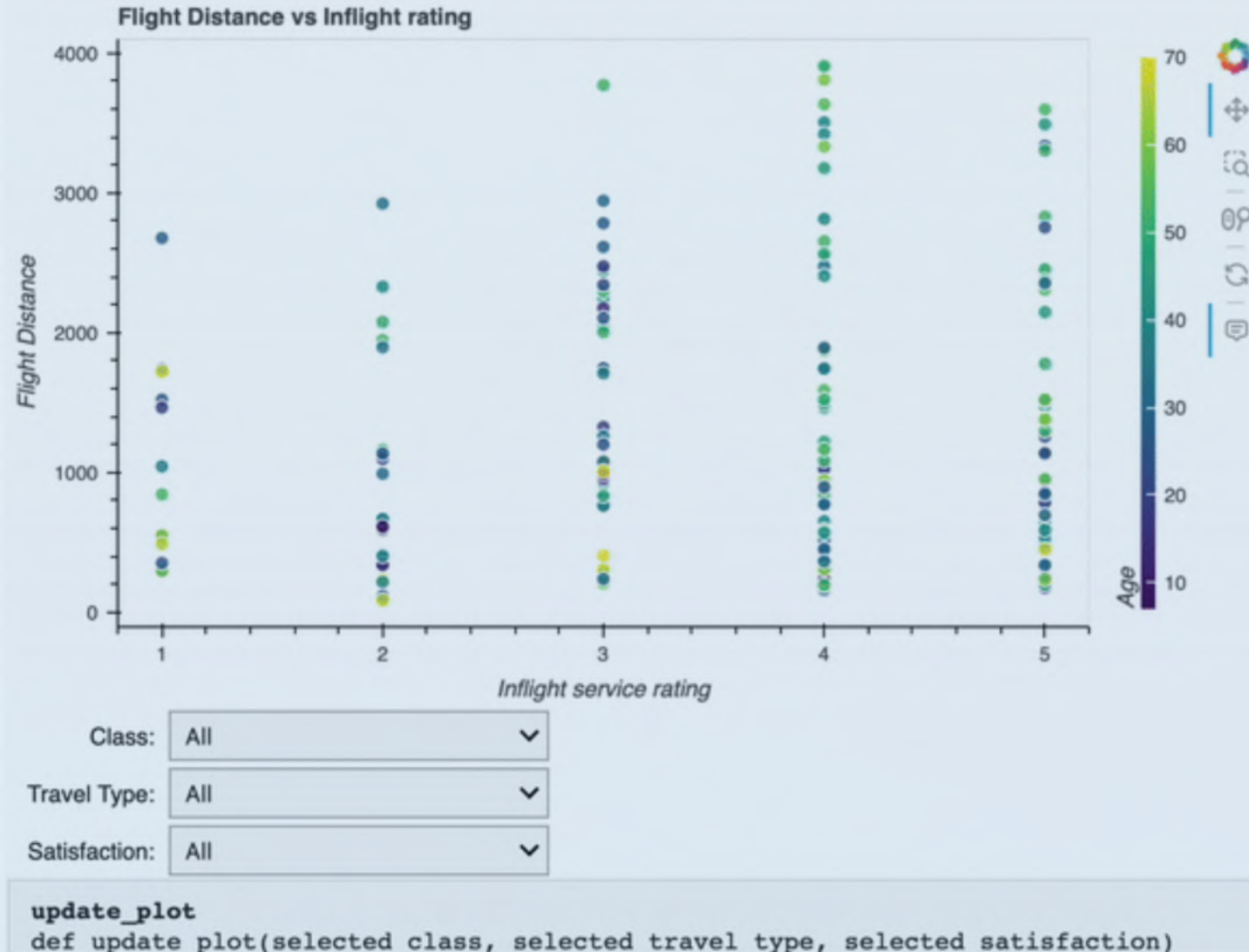


Peak fall around 0 min, mean delay is 15.09 min.



# Customer Retention:

## Demographic information of Inflight Rating



### Key Takeaways



**Older passengers** tend to have lower ratings.



**Younger passengers** may have higher ratings.

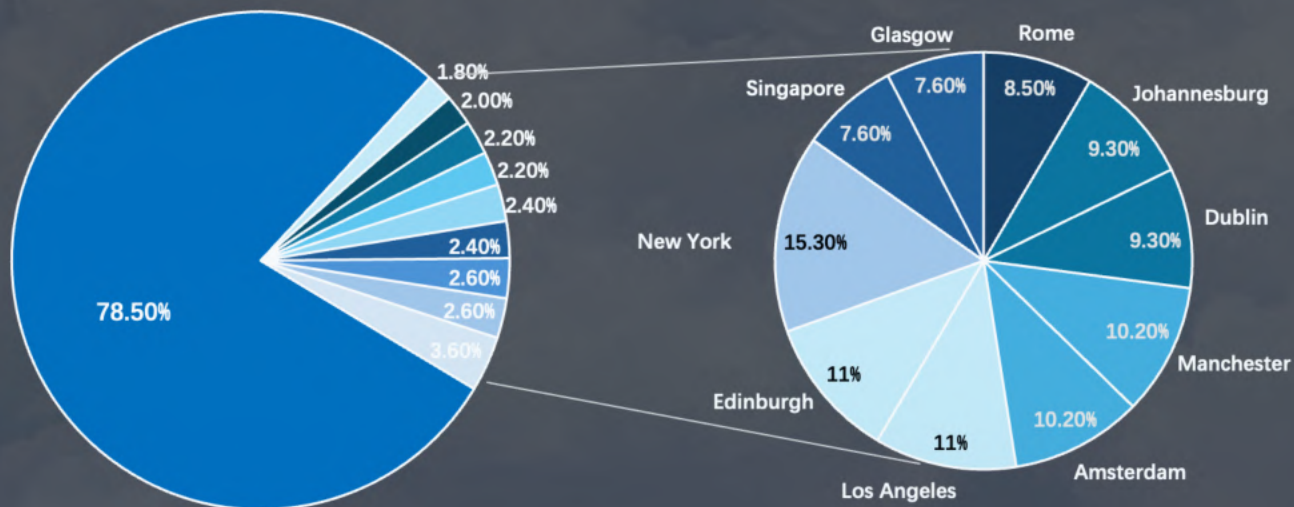


**Older passengers** more strict about in flight service might have

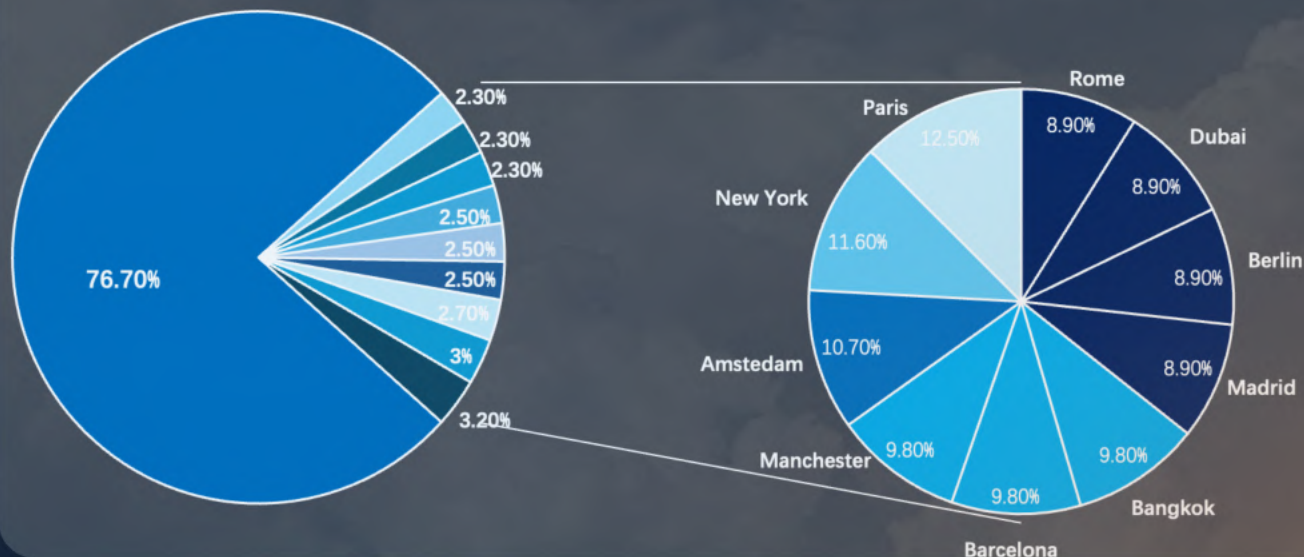


**Higher Expectations** from Experience

### Top 10 Frequency of People by Origin



### Top 10 Frequency of People by Destination



## Customer Retention: Origins & Destinations with and without London



**London** dominates BA's routes but non-London markets show **global growth** potential.



Key international hubs like **New York** and **Los Angeles** lead the pack without London.



**50%** of top routes are **non-European**, signaling BA's global focus.

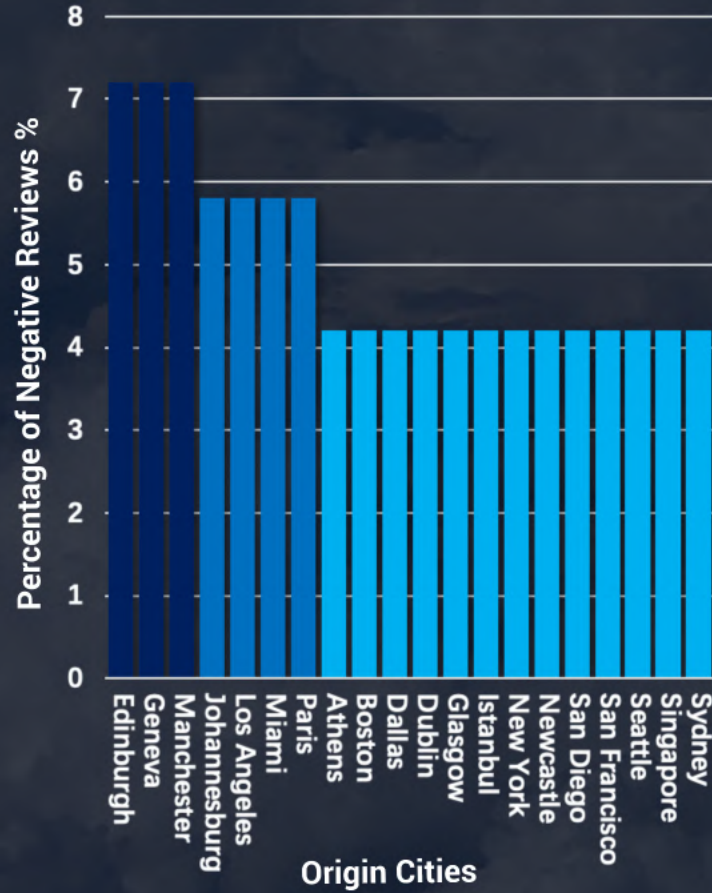


**Opportunity:** Expanding beyond London reduces dependence on one hub

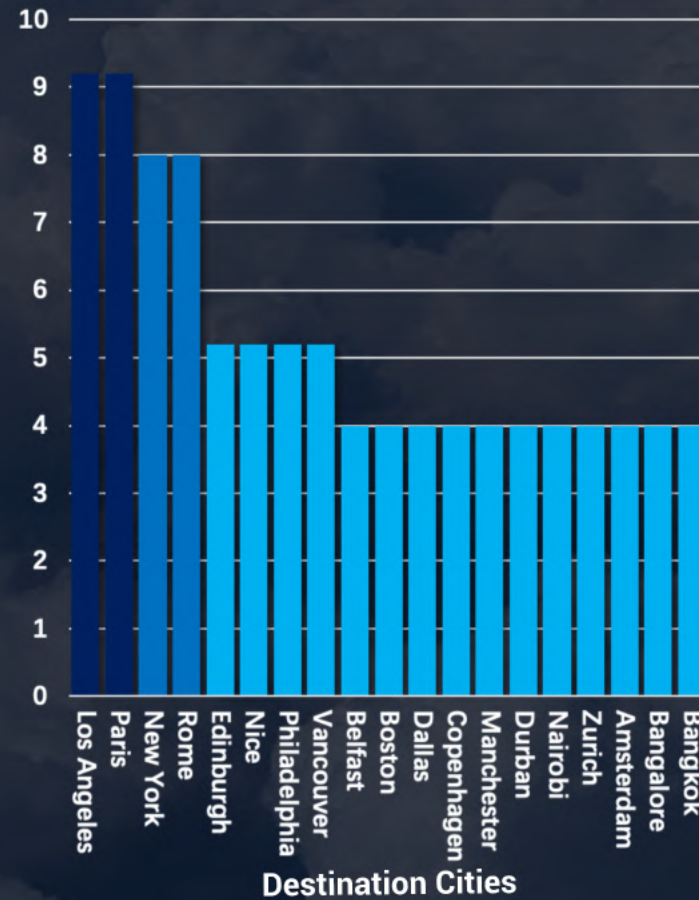


# Customer Retention: Dissatisfaction based on different cities

## Top 20 Origin Cities by Negative Reviews



## Top 20 Destination Cities by Negative Reviews



## Key Takeaways



**High traffic** and **congestion** in major cities lead to **delays** and **negative reviews**.



Busy hubs face **resource strain**, reducing **service quality**.



**Operational inefficiencies** like **long waits** and **flight delays** are common.



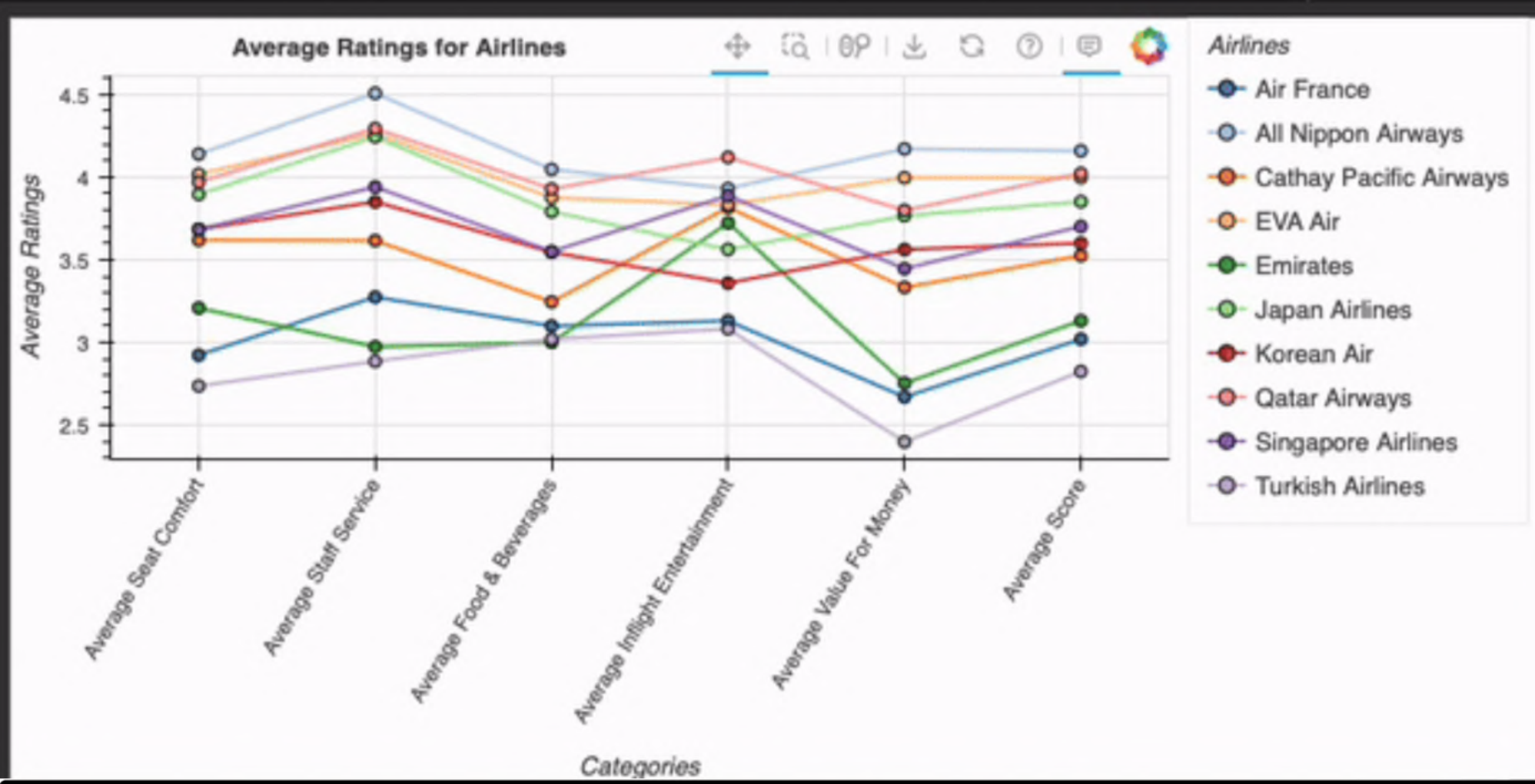
**Logistical challenges** increase issues like **lost baggage** in major cities.



Strengthen **staff training** on **routes** with many negative reviews.

# Competitor Analysis

**Key Factors Affecting Competitors' Rating**



**Staff Service** category is a key competitive dimension.

Categories to capitalise upon:



**Value for Money**

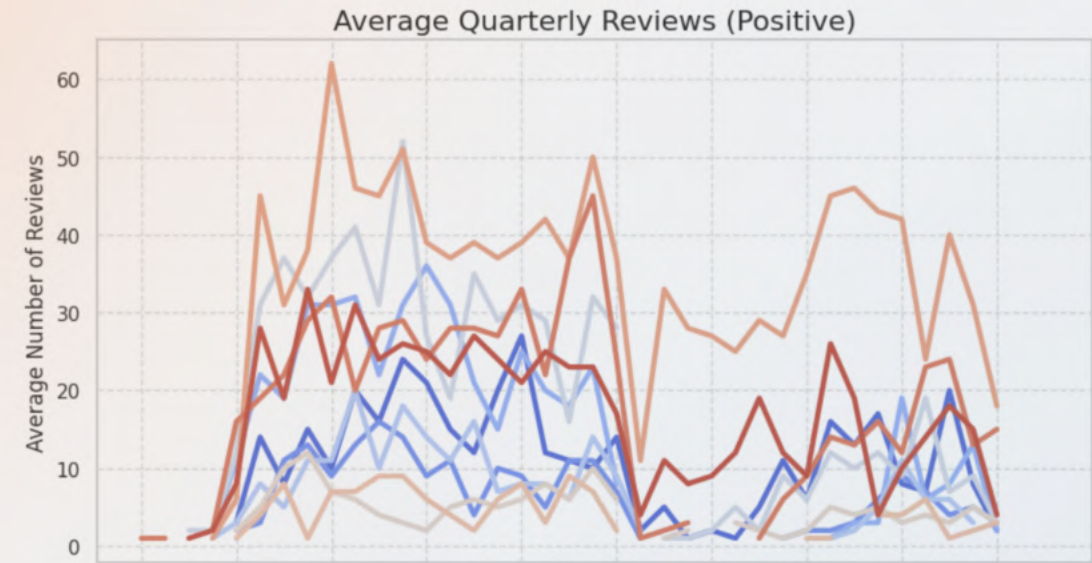


**Food and Beverages**

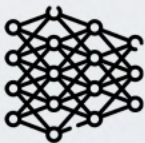
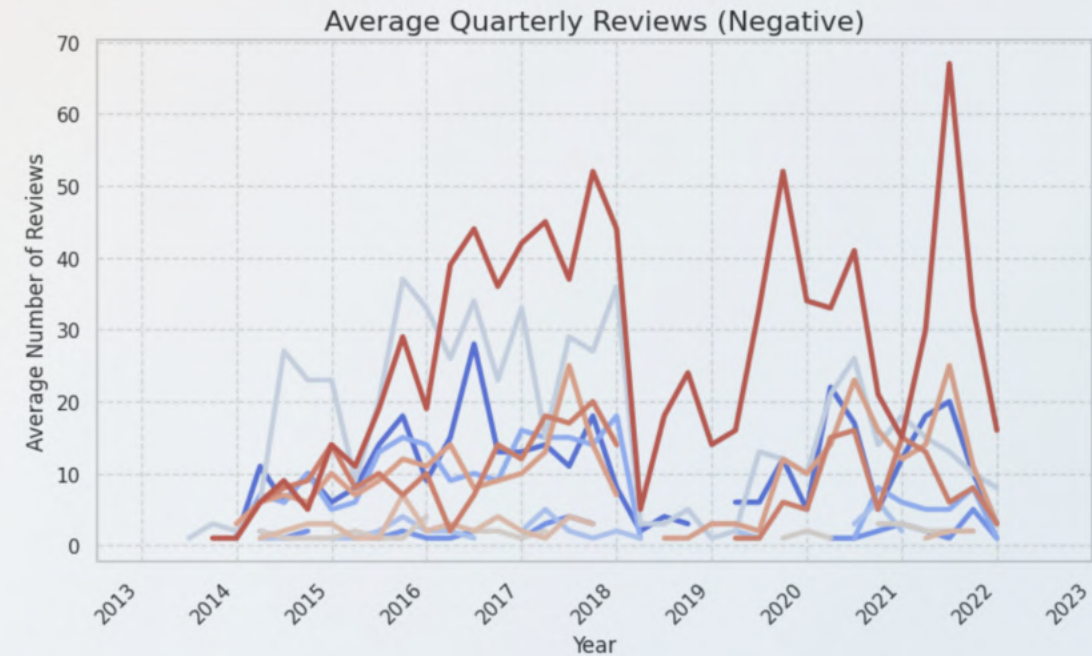




# Competitor Analysis : Performance Over Time(Reviews)



- Airline
- Air France
  - All Nippon Airways
  - Cathay Pacific Airways
  - EVA Air
  - Emirates
  - Japan Airlines
  - Korean Air
  - Qatar Airways
  - Singapore Airlines
  - Turkish Airlines



Use of **Machine Learning** model



Trends of **positive** and **negative** reviews received by each airline from 2013 to 2022.



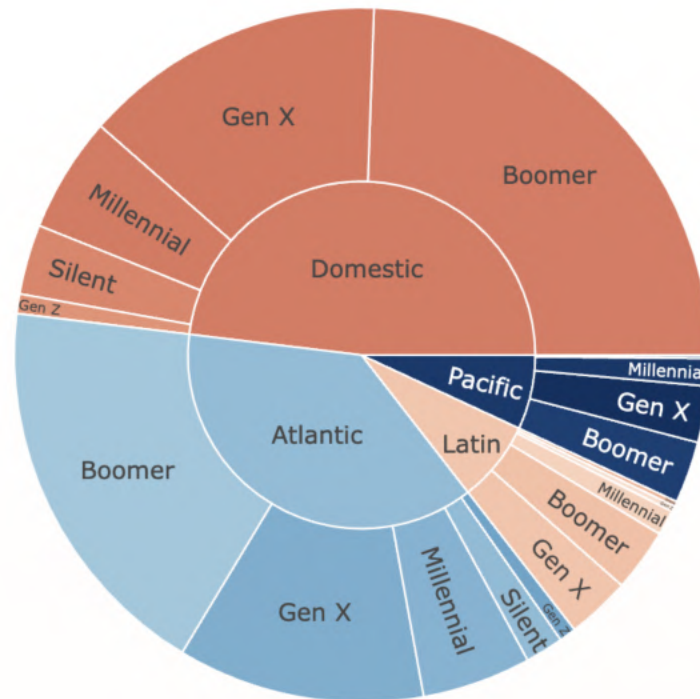
# Customer Attraction: Product demands

They should Promote **different products** based on **preference** of different ages to increase purchase rates 

**Boomers:**  
domestic  
routes  
Atlantic  
routes



**Gen X:**  
domestic routes  
Pacific routes



**Millennials:**  
domestic  
routes  
Pacific routes



**Silent Generation**  
domestic routes



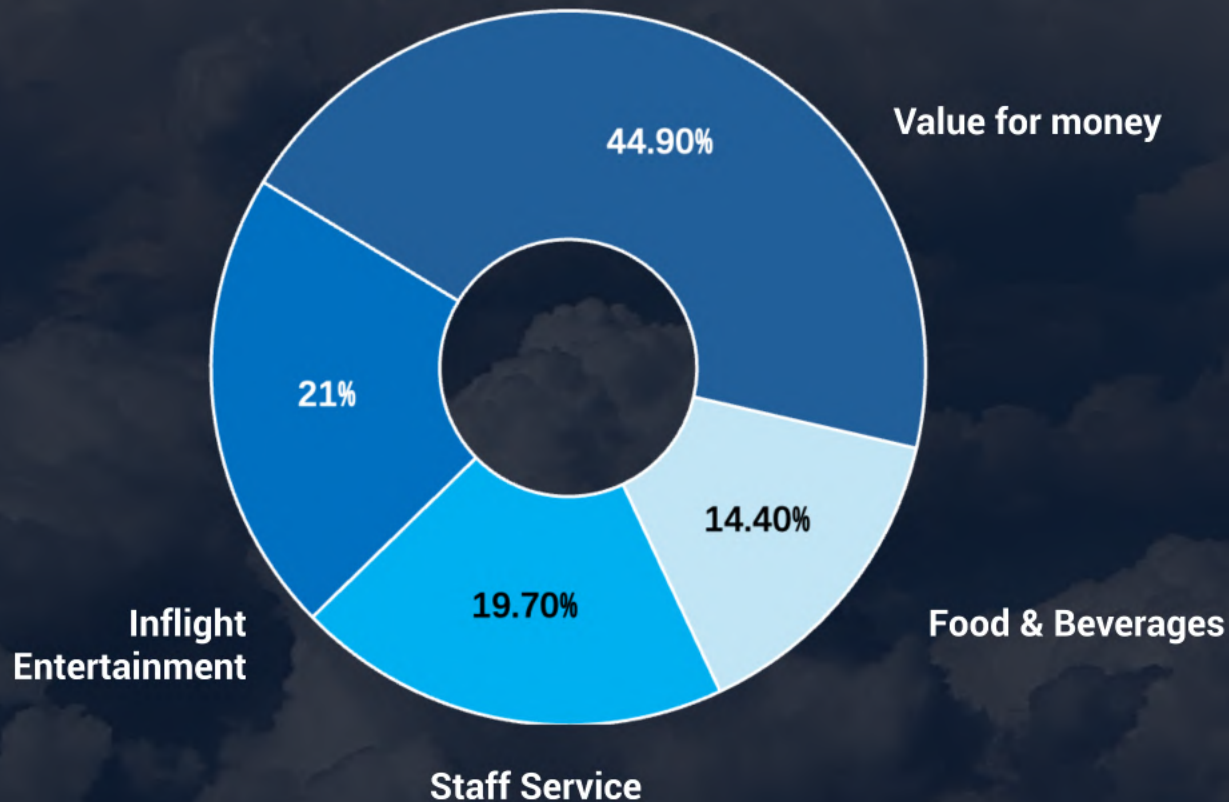
**Boomer and Genx dominate both international and domestic markets**



# Customer Attraction: Service demands

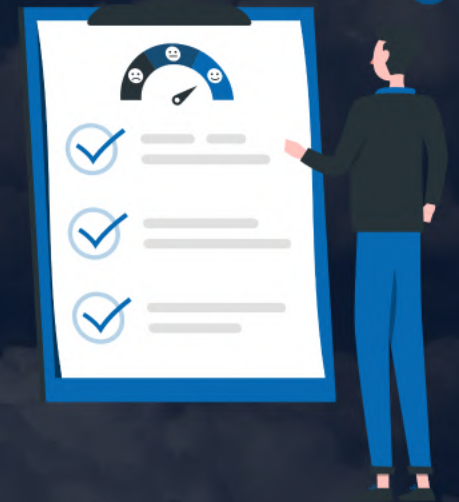
Improve **value for money** 📈💰, **inflight entertainment** 📺, **staff service** 👤 and **food** 🍴, which are the main factors that determine whether customers recommend it

## Key Issue Leading to Postive Recommendation



? Why do customers give a flight an overall **low rating** but still choose to recommend it in the end? What are the **key factors** that influence their choice to recommend our flight?

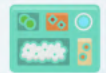
We selected customers whose overall rating was **less than 6** but still chose to **recommend**, and extracted the variables corresponding to the highest rating among all ratings, which constituted the decision factors for recommendation



# Driving Customer Attraction via Booking Preferences



**Australians** Prioritize Extra Luggage!



Mobile users in **Malaysia** prefer Inflight Meals!



**Thai** and **Chinese** Passengers Are Balanced Shoppers



There's Gold in **Mobile** Bookings

**Opportunity:** Personalize services by country to boost sales and engagement

HOW?



Targeted Upsell Campaigns

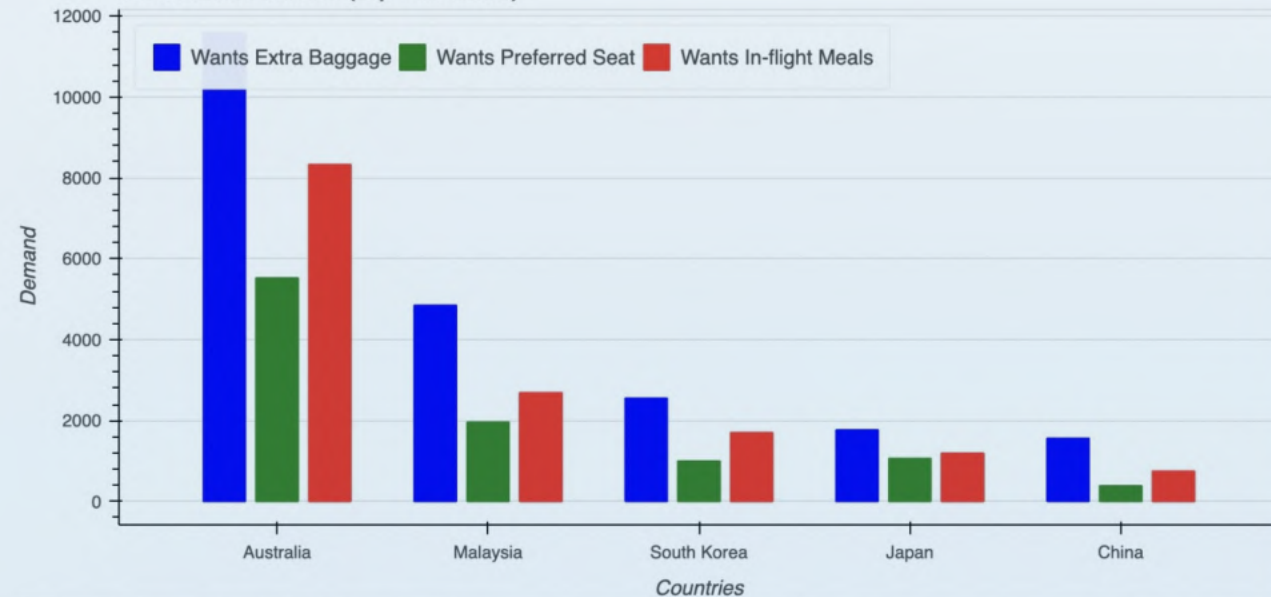


Personalized Service Offers

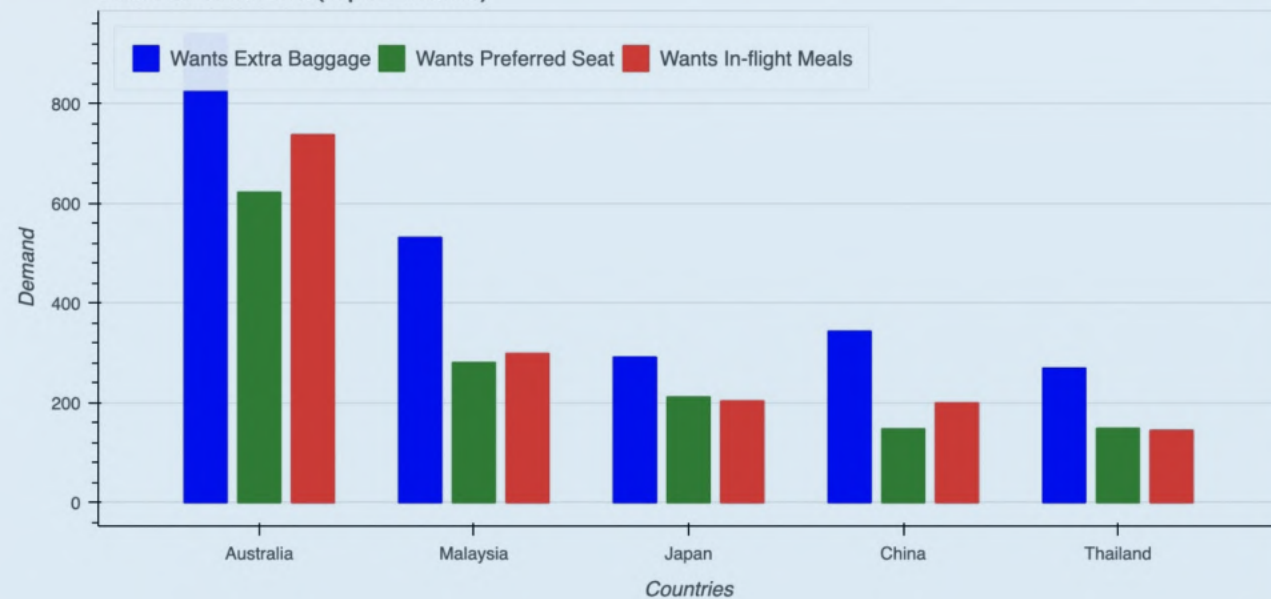


Mobile-Exclusive Deals

Internet Sales Channel (Top 5 Countries)



Mobile Sales Channel (Top 5 Countries)



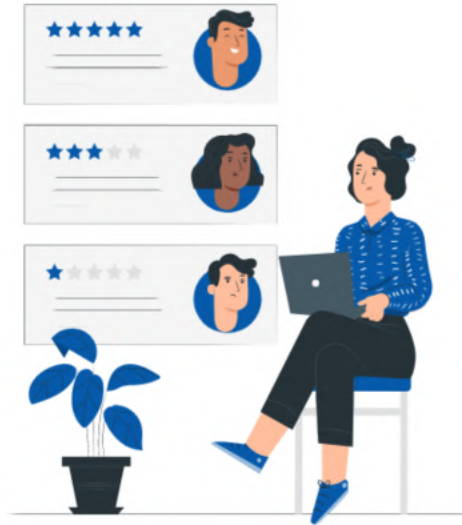


**81.8%** First-Class are dissatisfied



If they retained by 8.18% - could save **20%** of annual revenue.

Boost Operational Efficiency to Reduce **Delays**



If reduced by 20% - could save **compensation claims** and **operational costs**.

**74.5%** Solo and **83.8%** of Business Travelers gave negative reviews



By improving **services** and **operations**, they could directly impact retention, leading to a **boost in revenue**.

**Expand** Non-London Routes



Improving **services** on these routes by 15% could bring in more **new customers**.

**Final Descent – Strategic Outcomes and Growth Estimation**

# Challenges & Limitations

Inconsistent Data  
Formats

Missing Values

Irrelevant Data

Lack of financial  
Data

## OUR SOLUTION

Used Python's  
pandas library to  
standardize formats

Implemented fill methods  
and imputation  
techniques to handle gap

Employed data selection  
methods in Python to retain  
only relevant information

Further steps would  
be to look deeper into  
the revenues and  
expenses



...the aircraft has "safely landed" at  
the Logan airport, **Thank you!**







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